

REMARKS

Claims 1, 3-4, 6-9, 11, 12, 14-17 and 19-22 are pending in the application. Claims 1, 3-4, 6-9, 11, 12, 14-17 and 19-22 were rejected by the Office Action of July 27, 2005 in view of new grounds of rejection. Reconsideration of the Claim Rejections is requested in view of the following remarks.

Claim Objections

Claims 6, 8, 14, 16, 20 and 21 were objected to by the Office Action as being dependent on claims that were previously canceled. To address the informalities raised in the claim objections stated in the Office Action, Applicants amend claims 6, 8, 14, 16, 20 and 21 to depend on a pending claim rather than to depend on a claim that was previously canceled. No new matter has been added.

Claims Rejected Under 35 U.S.C. § 103(a)

The Office Action rejects claims 1, 3-4, 6-9, 11-12, 14-17 and 19-23 under 35 U.S.C. 103(a) as being unpatentable over Dunfield (U.S. Patent 5,694,268) in view of Fujii (U.S. Patent 5,426,548), and in further view of Papst (U.S. Patent 5,877,916). Applicants traverse the claims rejection to show that obviousness is not established. Features of Applicants claimed invention are not taught or suggested by the references either individually or combined. Further, there is no suggestion or motivation either in the references or in knowledge generally available to one of ordinary skill in the art to modify the references or combine the references.

Applicants Novel Claimed Invention

Applicants invention is directed in part at reducing axial height by forming a composite component for low profile disc drive memory systems. Improved stiffness, reduced vibration and reduced acoustic noise are also provided by a composite component of the base plate, stator and motor seal.

Cited References: Dunfield, Fujii and Papst

The cited references either individually or combined do not teach or suggest Applicants claimed invention, in particular Applicants independent claims 1, 9 and 17.

The Office Action cites Fujii for minimized axial thickness.

However, Applicants reduce axial thickness by forming a composite base and stator, and minimizing the base plate axial thickness. In contrast, Fujii reduces axial thickness by focusing on the hard disk connection with a supporting surface.

As stated in Fujii's objectives:

“...an object of the present invention is to provide a disk drive apparatus which has further reduced axial thickness but yet capable of easily and securely fixing recording disks to a rotor hub with a high degree of uniformity over the entire circumference” (Fujii, Summary, col. 2, lines 5-9).

Fujii describes the hard disk connection:

“...the hard disk 56 is pressed both at the upper and lower sides... between the disk supporting surface 54 and the clamp member...
...Further, it is possible to reduce the axial thickness of the apparatus as compared with known apparatus of the type in which the clamp member is fixed to the top of the rotor hub by means of a screw” (Fujii, col. 5, lines 32-43).

Fujii teaches away from minimizing axial thickness by way of Applicants composite stator and base.

In particular, Fujii describes a recess and surface for supporting the stator core:

“The annular land portion 22 between these annular recesses provides a surface for supporting teeth ends of a [stator] core.” (Fujii, col. 2, lines 60-63).

Fujii also teaches away from Applicants composite stator and base by describing a rotor hub placed both above and below the stator, separating the stator from the base:

“A rotor hub 218 has a substantially bowl-like form.” (Fujii, col. 7, line 67). Also, see item 218, FIG. 3, Fujii.

“The lower end of the rotor hub 218 fits in the recess 212 in the base plate 210 leaving a slight gap therebetween” (Fujii, col. 8, lines 8-10).

Fujii additionally teaches away from Applicants motor seal.

Fujii uses reservoir grooves as a seal (which a stator cannot be attached to):

“...the lubricant which passes the gap between the armature 26 and the rotor hub 38 is trapped in the first reservoir groove 46” (Fujii, col. 3, lines 63-65).

The Office Action cited Papst reference:

The Office Action states that Papst discloses a motor seal. Although Papst describes a ring 144 to retard contaminants, Papst fails to teach or suggest forming the stator to ring 144. Further, Papst teaches away from Applicants claimed invention, and the application of Applicants invention to Papst, or of Papst to Applicants invention, would cause an inoperable result, fail to fulfill their objectives, and would render Papst unsatisfactory for its intended purpose.

In contrast to Applicants axially minimized motor, Papst increases axial thickness. An object of Papst is to provide a disk storage device that achieves enhanced air gap seal. (see Papst, Background, col. 1, lines 46-48). To achieve that objective, Papst teaches a wider axial spacing between bearings 16 and 18:

“The bearing tube supports the bearings in which the spindle shaft is journaled and allows wider axial spacing between the bearings [16 and 18]...” (Papst, Summary, col. 1, lines 62-64).

Further, Papst extends bearing tube 114 (in an axial extended direction) to form a seal:

“...mates with the extended upper end of the bearing tube 114 to form a labyrinth seal 156...” (Papst, col. 5, lines 32-33).

In contrast to Applicants minimized base plate, if the base plate in Papst were minimized, then the bearing tube 114 in Papst would be axially minimized thereby forming a narrower axial spacing between the Papst bearings, rendering Papst unsatisfactory for its intended purpose.

Dependent Claims 3-4, 6-8, 11-12, 14-16 and 19-22

It is submitted that Applicants dependent claims 3-4, 6-8, 11-12, 14-16 and 19-22 are allowable for at least the reasons stated above with regard to the independent claims. Further, Applicants dependent claims recite further features and combinations of features that are patentably distinct and not taught or suggested by Fujii, Papst and Dunfield even as combined.

CONCLUSION

In view of the foregoing, it is submitted that amended claims 1, 3-4, 6-9, 11, 12, 14-17 and 19-22 patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, please contact the undersigned at Tel. (310) 312-1500.

Respectfully submitted,
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Dated: Sept. 9, 2005

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 9, 2005.

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9-09-2005
September 9, 2005